APPLICABILITY:
BASELINE EMISSIONS
AND
EMISSIONS INCREASES

The method of calculating emissions increases in order to determine whether certain physical changes to existing emissions unit trigger the major NSR requirements has changed. The first set of amendments relates to the way in which sources determine their baseline actual emissions: sources (other than EUSGUs) may now use any consecutive 24-month period during the 10-year period prior to the change to determine the baseline actual emissions for existing emissions units . The second set of amendments replaces the existing "actual-to-potential" and "actual-to-representative-actual-annual" emissions applicability tests for existing emissions units (including EUSGUs) with an "actual-to-projected-actual" applicability test for determining if a physical or operational change will result in an emissions increase. The new procedure for determining pre-change baseline actual emissions does not apply to EUSGUs, which will remain under the existing procedures for determining the baseline actual emissions.

Baseline emissions.

Calculating pre-change baseline actual emissions.

When the baseline actual emissions are calculated for an existing emissions unit (other than an EUSGU), any consecutive 24 months of source operation within the past 10 years may be selected. Using the source records for that 24-month period, including such information as the utilization rate, fuels and raw materials used, and applicable emission factors, the source must be able to calculate an average annual emissions rate, in tpy, for each pollutant emitted by the emissions unit that is modified or affected by the modification.

The new rules prohibit counting as part of the baseline actual emissions any pollution levels that are not allowed under any legally enforceable limitations and that apply at the time of the project. Therefore, the most current legally enforceable limits on the emissions unit must be identified. If these legally enforceable emission limitations and operating restrictions are more stringent than those that applied during the 24-month period, the average annual emissions rate that was calculated from the consecutive 24-month period must be adjusted downward to reflect these current restrictions.

The 10-year lookback.

Baseline actual emissions are calculated based on a 24-month period within the 10-year period before the physical or operational change.

If a source needs a major or minor NSR permit to proceed with a proposed physical or operational change, then it must use the 10-year period immediately preceding the date on which it submits a complete permit application. If, however, the planned change will not result in a significant emissions increase from the project or a significant net

emissions increase at the major stationary source (that is, the project will not be a major modification), and a minor NSR permit before making the change is not otherwise required, then the 10-year period immediately preceding the date on which actual construction of the physical or operational change begins must be used.

The ability to use the full 10 years of the lookback period depends on the availability of relevant data for the consecutive 24-month period the source chooses. The data must adequately describe the operation and associated pollution levels for the emissions units being changed. If there is not enough data available for accurately calculating the average annual emissions rate during that period of time, then the source must select another consecutive 24-month period within the 10-year lookback period for which it has adequate data.

Adjusting calculations of the pre-change baseline actual emissions.

The average annual rate must be adjusted downward if any state or federal legally enforceable emission limitations (such as RACT, BACT, LAER, NSPS, or NESHAP), restrict the emissions unit's ability to emit a particular pollutant or to operate at levels that existed during the selected 24-month period from which the average annual emissions rate is calculated. The source must also adjust for legally enforceable emission limitations that the source may have voluntarily agreed to, such as limits taken in a permit for netting, emissions offsets, or the creation of ERCs. Emissions from the 24-month period must also be adjusted if a raw material used during the baseline period becomes prohibited.

Use of multiple fuels or raw materials.

An emissions unit that can burn more than one type of fuel must relate the current emission factors to the fuel or fuels that were actually used during the selected 24-month period. For example, when calculating the baseline actual emissions for an emissions unit that burned natural gas for a portion of the 24-month period and fuel oil for the remainder, that fuel apportionment (for example, natural gas to fuel oil ratio) must be retained, but the current legally enforceable emission factors for natural gas and fuel oil may also be used to calculate baseline actual emissions. If, however, one of those fuel types is no longer allowed or available, then the calculations must be made assuming use of the currently allowed fuel for the entire 24-month period. The same approach must be used for emissions units that use multiple feedstock or raw materials, which may vary in use during the unit's ongoing production process.

Calculating baseline actual emissions that involve multiple units.

The source must select the same single consecutive 24-month period within the 10-year lookback period to calculate the baseline actual emissions for all existing emissions units that will be changed. The result will be that the baseline actual emissions for each affected pollutant will be based on the same consecutive 24-month period as well.

Sources may opt to select the single 24-month period that best represents the collective level of operation (and emissions) for the existing emissions units.

If an existing emissions unit did not exist during the 24-month period selected for calculating the baseline actual emissions, its emissions rate must be counted as zero for that full period of time. If an emissions unit operated for only a portion of the particular 24-month period, its average annual emissions rate must be calculated using an emissions rate of zero for the period when the unit was not in operation.

For new (less than 2 years old) emissions units that will be changed by the project, the baseline actual emissions rate is zero if operation of the unit has not begun, and is equal to the unit's PTE once it has begun to operate.

Calculating baseline actual emissions and other major NSR requirements.

Existing emissions units can use the new baseline methodology for the following purposes:

- For *modifications*, to determine a modified unit's pre-change baseline actual emissions as part of the new actual-to-projected-actual applicability test.
- For *netting*, to determine the pre-change actual emissions of an emissions unit that underwent a physical or operational change within the contemporaneous period. Separate baseline periods may be selected for each contemporaneous increase or decrease.
- For *PALs*, to establish the PAL level.

If the modification is major, the source must revert to using the existing definition of "actual emissions" to determine its actual emissions on a particular date to satisfy all other NSR permitting requirements, including any air quality analyses (such as compliance with NAAQS, PSD increments, AQRVs) and the amount of emissions offsets required. For example, when compliance with PSD increments following a major modification must be determined, the allowable emissions from each emissions unit that is modified, or is affected by the modification, must still be used. An existing source's contribution to the amount of increment consumed should be based on that source's actual emissions rate from the 2 years immediately preceding the date of the change. The department may allow use of a different 2-year period if it is more representative of normal operation.

Any determination of the amount of emissions offset that must be obtained by a major modification subject to the nonattainment NSR requirements should be based on calculations using the existing definitions of "actual emissions" and "allowable emissions."

Emissions increases.

Post-change actual emissions.

Sources may now use the "actual-to-representative-actual-annual" emissions test that is similar to the applicability test that previously been limited to EUSGUs. The new test allows a source to project the post-change emissions of all modified existing emissions units in the same way. Under the provisions for non-routine physical or operational

changes to existing emissions units, an annual rate may be projected that reflects the maximum annual emissions rate that will occur during any one of the 5 (or in some circumstances 10) years immediately after the physical or operational change. The first year begins on the day the emissions unit resumes regular operation following the change. This projection of the unit's annual emissions rate following the change is defined as the "projected actual emissions," and will be based on the maximum annual rate in tons per year at which a regulated NSR pollutant is projected to be emitted, less any amount of emissions that could have been accommodated during the selected 24-month baseline period and is not related to the change. Accordingly, the unit's projected actual emissions are calculated as the product of:

- the *hourly emissions rate*, which is based on the emissions unit's operational capabilities following the change, taking into account legally enforceable restrictions that could affect the hourly emissions rate following the change; and
- the *projected level of utilization*, which is based on both the emissions unit's historical annual utilization rate and available information regarding the emissions unit's likely post-change capacity utilization.

In calculating the projected actual emissions, the source should consider both the expected and the highest projections of the business activity that it expects could be achieved, and that are consistent with information the source publishes for business-related purposes (such as a stockholder prospectus, or applications for business loans). From the initial calculation, the source may then make the appropriate adjustment to subtract any portion of the emissions increase that could have been accommodated during the unit's 24-month baseline period and is unrelated to the change. Once the appropriate subtractions have been made, the final value for the projected actual emissions is the value that will be compared to the baseline actual emissions to determine whether the project will result in a significant emissions increase.

The adjustment to the projected actual emissions allows exclusion from the projection of only the amount of the emissions increase that is not related to the physical or operational change. In comparing the projected actual emissions to the units' baseline actual emissions, only emissions increases that will result from the project count.

For Clean Units, if a given project can be constructed and operated at a Clean Unit without causing the emissions unit to lose its Clean Unit status, then no emissions increase will occur.

For new units, the source must continue to calculate post-change emissions on the basis of a unit's PTE.

<u>Projected actual emissions as an enforceable emission limitation.</u>

If a project at an existing emissions unit results in an increase in annual emissions that exceeds the baseline actual emissions by a significant amount, and differs from the projection of post-change emissions, then this increase must be reported to the department within 60 days after the end of the year. Since modified EUSGUs are required to report their post-change annual emissions to the department annually, any

occurrence of a significant increase will be covered under that report for the affected calendar year.

Post-change emissions tracking.

Generally, projected actual emissions must be tracked against post-change emissions for 5 years following resumption of regular operations whether the source is an EUSGU or another type of existing emissions unit. It is assumed that any increases that occur after 5 years are not associated with the physical or operational changes. However, tracking emissions for a longer period of time may be needed if it is an existing emissions unit and one of the effects of a physical or operational change is to increase a unit's design capacity or PTE. In that case, the emissions must be tracked for 10 years after completion of the project. This extended period allows for the possibility that the source could end up using the increased capacity more than it projected, which might lead to significant emissions increases.

Reporting and recordkeeping requirements.

Reporting and recordkeeping for a project is required when three criteria are met:

- the source elects to project post-change emissions rather than use PTE;
- there is a reasonable possibility that the project will result in a significant emissions increase; and
- the project is not a major modification.

If reporting and recordkeeping are required, the source must document and maintain:

- a description of the project;
- identification of emissions units whose emissions could increase as a result of the project;
- identification of the baseline actual emissions for each emissions unit; and
- identification of projected actual emissions, including any emissions excluded as unrelated to the change and the reason for the exclusion.

In addition, for a significant project increase, the source must record netting calculations if emissions reductions are used elsewhere to conclude that the project is not a major modification. For covered projects, this information must be recorded before beginning actual construction. EUSGUs must also send this information to the department before beginning actual construction. Note that if potential emissions are chosen as the projection of post-change emissions, no record of this decision is required.

Emissions data must be also maintained for all emissions units that are changed by the project for 5 to 10 years, as applicable. This information may include continuous emissions monitoring data, operational levels, fuel usage data, source test results, or any other readily available, accurate data that can be used to determine post-change emissions.

An EUSGU must report this information to the department within 60 days after the end of any year in which it is required to generate such information. Other existing units must report any increase in the post-change annual emissions rate when that rate:

- exceeds the baseline actual emissions by a significant amount, and
- differs from the projection that was calculated before the change.

Additionally, this emissions information must be available for examination by the department or the general public.

Netting methodology for existing emissions units.

If a significant emissions increase will result from a modification, the source has the option of taking into consideration any contemporaneous emissions changes that may enable it to "net out" of review--that is, to show that the net emissions increase at the major stationary source will not be significant. The contemporaneous time period does not change under the federal PSD program as a result of these regulations. In other words, creditable increases and decreases in emissions that have occurred between the date 5 years before construction of the particular change commences and the date the increase from that change occurs are contemporaneous. The state will continue to have some discretion in defining "contemporaneous" for its own NSR programs.

Although the definition of "contemporaneous" did not change, existing emissions units (other than EUSGUs) may calculate the baseline actual emissions for each contemporaneous event using the 10-year lookback period. That is, a source can select any consecutive 24-month period during the 10-year period immediately preceding the change occurring in the contemporaneous period to determine the baseline actual emissions for each creditable emissions change. Generally, for each emissions unit at which a contemporaneous emissions change has occurred, the 10-year lookback period relevant to that change should be used. When evaluating emissions increases from multi-unit modifications, if more than one emissions unit was changed as part of a single project during the contemporaneous period, a separate consecutive 24-month period may be selected to represent each emissions unit that is part of the project. In any case, the calculated baseline actual emissions for each emissions unit must be adjusted to reflect the most current emission limitations (including operational restrictions) applying to that unit. "Current" in the context of a contemporaneous emissions change refers to limitations on emissions and source operation that existed just prior to the date of the contemporaneous change.